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OUTBREAK OF RABIES IN HONG KONG

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The Crown Colony of Hong Kong has always been exposed to risk of invasion by rabies. The land border with China proper is long and until quite recently was open. In addition, certain classes of the community esteem puppy flesh as something of a delicacy; in consequence, there developed some clandestine import trade in such animals from China, both by land and sea. The importation of dogs into the Colony except under veterinary permit has long been legally prohibited but it was, and to some extent is, not too difficult to evade official control. Once a dog had been smuggled into the Colony it was no easy matter to prove illegal importation. Sporadic cases of rabies developed at the rate of about two per year fairly regularly but no serious outbreak had been noted for many years. In 1949, however, a serious outbreak did develop with the loss of 32 human lives and at least 50 cases of rabies established in dogs. The table at foot sets out the incidence since 1946. Previous records have been lost.

It may be noteworthy that around March and October appear to be the "normal" time for cases of human rabies. The data, however, are inadequate.

In 1947 some alarm was caused by the prevalence of wild dogs. These had multiplied during the war years and many reports of attacks on children were received. Systematic hunting by police units was adopted and at the same time stray dogs found wandering in the streets were also shot on sight. This resulted in a rapid reduction in their numbers and by 1949 the true wild dog had not been seen for some time. There were, however, large numbers of unlicensed dogs wandering unmuzzled about the squatter areas on the outskirts of the city, largely uncared for and allowed to scavenge their food freely in defiance of the regulations, and it was amongst these that the canine outbreak of 1949-50 first developed.

Diagnosis and Recording of Cases.—All cases recorded as rabies were positively established as such by *post-mortem* examination, demonstration of Negri bodies in the brain tissue of either the animal or the human case, or by animal inoculation tests. In addition to the cases reported above there were a few suspected to be rabies on clinical grounds but not established by *post-mortem* examination. Such cases are excluded from the records.

HISTORY AND COURSE OF THE OUTBREAK, 1949-51

The first human case, a man of 44 years of age, died on January 16th, 1949. He was a resident of a fishing village on the main island into which puppies were frequently smuggled by fishing junk. He gave a history of having been bitten on the hand by a puppy, which he admitted he had been preparing for food and subsequently ate, on July 25th, 1948. This case was the only one to occur on the island and is probably in the nature of the usual annual sporadic case referred to above, as is probably also the last case occurring in February, 1951.

On the mainland, to which the outbreak was thereafter confined, almost simultaneously with the report of the death of the first human case a report was received that a dog had suddenly attacked a 14-year-old girl in a congested squatter area on the outskirts of the city. The dog had promptly been killed by her relatives and examination of the brain showed Negri bodies. This first canine case was followed by a second in February in the same locality and a third in April. In April also the second human death from rabies was reported, a young man living in a congested tenement not far removed from where the infected dogs had been found. Thereafter the outbreak rapidly developed, first in dogs, quickly followed by human cases, and continued through 1950 until the last human death was reported in February, 1951, an elderly Chinese farmer who said he had been bitten by a dog in Chinese territory while visiting a market just across the border.

TABLE I
INCIDENCE OF CASES

Month of year	1946		1947		1948		1949		1950		1951	
	Canine	Human	Canine	Human	Canine	Human	Canine	Human	Canine	Human	Canine	Human
January ...	—	—	—	—	—	—	1	1	2	—	—	—
February ...	—	—	1	—	—	—	1	—	1	—	—	1
March ...	—	1	—	1	—	—	—	—	2	2	—	—
April ...	—	—	—	1	2	—	1	1	1	3	—	—
May ...	—	—	—	—	—	1	5	—	2	3	—	—
June ...	—	—	—	—	1	—	1	—	1	—	—	—
July ...	—	—	—	—	—	—	—	2	—	2	—	—
August ...	—	—	—	—	—	—	11	4	—	—	—	—
September ...	—	—	—	—	—	—	8	4	—	—	—	—
October ...	—	1	—	1	—	—	5	2	—	—	—	—
November ...	—	—	—	—	—	1	3	5	—	1	—	—
December ...	—	—	—	1	—	—	4	1	—	—	—	—
Totals ...	0	2	1	4	3	2	40	20	10	11	0	1

From Table I it will be noted that the canine outbreak shows one major curve rising sharply to a peak in August and thereafter declining steadily until June, 1950, since when no case of rabies has been discovered in any animal. The total absence of cases since June, 1950, rather suggests that no great spread could have occurred in spite of the alarming state of affairs in August, 1949.

During the canine outbreak a minor outbreak appears to have developed in cats also. One case of rabies was established in a cat and three human cases gave a history of cat bites. Many people, including an American business man and a European Civil Servant, reported sudden unprovoked attacks by strange cats while walking in the streets. Unfortunately, it was hardly ever possible to trace or capture the cat responsible for such attacks. Although only one case was proved in a cat there is little doubt that several cats were infected. The cat found rabid is not known to have caused any human death but it had been in contact with the cat which was believed to be responsible for two of the human deaths mentioned above. That cat disappeared from its home shortly after attacking its owner but the matter did not come to notice until rabies developed in the first human victim.

The human cases show two distinct waves separated from each other by a gap of two months. In this connection it is interesting to note that 40 per cent. of human cases had an incubation period of five to six weeks (see Table IV). The isolated human case occurring in November, 1950, is of some interest. This was an elderly Chinese female who absolutely denied any dog or cat bite but alleged she had been bitten by a rat on the wrist some five weeks previously. An intensive anti-rat campaign was organised in the locality but no evidence of infection in rats was discovered. No other case, either animal or human, occurred until the last isolated case already mentioned who claimed having been infected in Chinese territory. The rat as a source of infection is therefore accepted with considerable reserve but it is not impossible, particularly in view of the infection in cats.

In addition to the 32 human cases listed above, all of whom were Chinese, one European was reported to have died in Sumatra of rabies believed to have been contracted in Hong Kong. This case is excluded from Hong Kong vital statistics as the death was not registered here but there is little reason to doubt that infection was acquired in Hong Kong. The victim, a young Netherlander, was rather badly bitten about the hands by his own dog. He received the routine course of 14 prophylactic injections of 4 per cent. vaccine prepared by the Semple method, using a Kasauli strain of virus. A few weeks later he left the Colony on transfer to Sumatra and shortly after the health authorities at Batavia notified the Hong Kong authorities that he had died of rabies. The case was very carefully and fully investigated by both health authorities and it appears that, at an earlier date, this young man may have been exposed to risk of infection for which he received no immediate treatment. In that case treatment may have been too late, although actual experience does not indicate that delay in treatment necessarily involved added risk, as will be seen from Table VIII.

All ages and both sexes were affected with a preponderance of males. The following table sets out the data in detail.

Animals Infecting Human Cases.—In two human cases no information as to the source of infection could be obtained. Both were young casual labourers, without relatives, brought into hospital already far advanced in the disease. In two other cases no clear history of when the injury had been sustained could be secured, but dog bites were alleged. In only seven of the human fatalities could the actual animal be produced, in each case a dog, two human fatalities being due to the same dog. In three human cases the infecting animal was a cat, the same cat being responsible for two human fatalities. The three victims of cat attacks who died of rabies did not seek prophylactic treatment. The available data are tabulated below.

Table II

Age and Sex Incidence of Human Cases

Age in years	Male cases	Female cases	Total
1– 5	2	—	2
6–10	1	2	3
11–15	3	—	3
16–20	3	—	3
21–25	4	—	4
26–30	2	1	3
31–35	1	—	1
36–40	3	—	3
41–45	3	—	3
46–50	1	1	2
51–55	—	1	1
56–60	1	3	4
Total ...	24	8	32

Table III

Source of Infection

Animal source		Number of cases		
		Male	Female	Total
Dog { Puppy		2	1	3
Dog { Adult		18	5	23
Cat		2	1	3
Rat (?)		—	1	1
Unknown		2	—	2
Total		24	8	32

Incubation Period in Human Cases.—An interesting feature of the outbreak was the unusually short incubation period found in the majority of cases. The shortest period on record is 15 days between the date of the bite and death. This was a man of 36 years of age bitten on the nose and lips by a stray dog on May 16th, 1950. He reported four days later for prophylactic treatment, which was begun at once, but he contracted rabies and died quite suddenly on May 31st, 1950, before the course of injections could be completed. Three other persons also died within three weeks of being bitten. None of those had received proper prophylactic treatment, but it is interesting to note that one of them had sustained only a comparatively minor wound on the ankle. Such a rapid development of the disease would not normally have been expected.

The following table sets out the age incidence in relation to the period intervening between the date of the bite and the date of death. In the majority of the cases with a short period of incubation the actual date of the bite was definitely ascertained.

It will be noted that 65 per cent. of cases died within three months of being bitten and as many as 53 per cent. died within two months or less. It will also be noted that the cases dying within a few weeks of being bitten were not confined to the younger age groups but were well distributed

TABLE IV
AGE GROUP DISTRIBUTION IN RELATION TO INCUBATION

Period between bite and death	Age group in years												Total cases	Per cent. of total
	0–5	6–10	11–15	16–20	21–25	26–30	31–35	36–40	41–45	46–50	51–55	56–60		
- 1 month ...	—	1	—	—	—	1	—	1	—	1	—	—	4	12·5
- 2 months ...	2	1	2	1	—	1	—	1	1	1	1	2	13	40·62
- 3 " ...	—	1	—	—	—	—	—	—	1	—	—	2	4	12·5
- 4 " ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—
- 5 " ...	—	—	—	1	—	—	—	—	—	—	—	—	1	3·13
- 6 " ...	—	—	—	—	1	—	—	—	1	—	—	—	2	6·25
- 7 " ...	—	—	—	—	—	1	—	—	—	—	—	—	1	3·13
- 8 " ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—
- 9 " ...	—	—	—	1	—	—	—	—	—	—	—	—	1	3·13
-10 " ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—
-11 " ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—
-12 " ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12 " ...	—	—	1	—	—	—	1	—	—	—	—	—	2	6·25
Unknown ...	—	—	—	—	3	—	—	1	—	—	—	—	4	12·5
Totals	2	3	3	3	4	3	1	3	3	2	1	4	32	—

through all age groups. This picture would seem to suggest that the local virus was of a particularly virulent nature.

The longest incubation period claimed was five years. The man making this claim was an intelligent Chinese trader who at first denied ever having been bitten, then recalled that he had once been attacked in Canton while on a business trip five years before. The possibility of his having overlooked a more recent source of infection cannot be discounted, but it is known that occasionally rabies may lie dormant for a considerable time, only to appear as a sequel to some other illness or physical or mental exhaustion. It is just possible this was one such case although the long incubation is accepted with considerable reserve. He had never received any prophylactic treatment and it is believed to be more usual to find delayed rabies in cases which have received inadequate prophylaxis. The disease in this case began rather mildly and ran a rather longer course than in the majority of other cases which, in this outbreak, tended to be acute or fulminating.

Localisation of the Outbreak.—The outbreak, both human and canine, and all suspected feline infection and the one possible rodent case, with the single exception of the first human case, was confined to the mainland portion of the Colony. It started amongst the dogs found on the outskirts of the city where large squatter settlements have formed and in which many unlicensed mongrel watch dogs were to be found. The rural part of the Colony bordering on China was not affected until late in the outbreak and was apparently infected by spread from the city—not, as was usually assumed to be most likely, by infiltration across the border by stray dogs from China. It seems fairly certain that infection was introduced by the illegal importation of dogs, probably by squatters, and quite possibly of puppies for food. The following table sets out the incidence in relation to locality where infection was acquired.

TABLE V
LOCALITY IN WHICH INFECTION ACQUIRED

Locality	Male cases	Female cases	Total	Percentage of total
Rural districts ...	5	2	7	21·87
Urban area ...	13	5	18	56·25
Outside Colony ...	4	1	5	15·62
Unknown	2	—	2	6·25
Total	24	8	32	—

Status of Dogs found Infected.—As has been mentioned, in only seven human cases of rabies was it possible positively to identify the infecting animal. In most instances the case came to notice only when symptoms supervened and all trace of the animal had been lost. The law of the Colony, however, requires that anyone bitten by a dog shall report the matter to the police. The dog, if traceable, is then impounded for 10 days' veterinary observation. Special kennels are provided by the Urban Council for the purpose. No fewer than 48 dogs so impounded during 1949 and 1950 were found rabid. Two other dogs were killed in the streets by relatives of the victim and, on examination of the brain, were found to have been rabid. Whereas most victims of rabies reported having been attacked by a "stray dog," it is interesting to note that the majority of dogs actually found rabid were not strays but possessed by an owner usually easily traced. A large number of owners, however, were squatters who gave their dogs little or no attention. Five rabid dogs were of good quality, owned by better-class owners, two of them Europeans.

TABLE VI
STATUS OF INFECTED DOGS

Status Type of house	Numbers of dogs infected	Percentage of total
Owner identified—Residential area	5	10
Tenements, etc.	19	38
Squatter area ...	16	32
Stray (owner untraced)	10	20
Totals	50	

All these dogs had been allowed to wander at will in defiance of the regulations. There is no record of any one of them ever having received prophylactic immunisation. Only the few dogs owned by the better-class owners had been licensed ; that is to say, the majority of the dogs were little better than strays although having a definite home and responsible owner. It would seem, then, that irresponsible disregard for the regulations had been the main cause of the outbreak.

There does exist in Hong Kong a true species of wild dog, resembling a small Alsatian in appearance. These wild dogs multiply periodically and form packs which become dangerous. They are systematically hunted and shot down and their numbers at the time of the outbreak, following the

1947 huntings, did not appear to be large. There is no real evidence that they played any part in the spread of the disease but they certainly form a potential reservoir of infection.

Status of Human Victims.—Practically all of the human fatalities were of the lower labouring classes, many of them living as squatters. Only seven of them sought prophylactic treatment before the onset of symptoms.

The prophylactic status of the human rabies victims is set out in the following table.

Table VII

Prophylactic Status of Victims

Status	Numbers	Percentage
No prophylactic treatment	25	78·12
Partial treatment given	3	9·37
Complete course given	4	12·5
Total cases	32	

Effect of Prophylaxis

The 50 animals definitely proved to be rabid are known to have bitten 66 persons. All of those persons, save three, received the conventional prophylactic treatment. Of these three, one, a boy of 13 years bitten on May 19th, 1950, received no treatment and died of rabies on July 13th, 1950; another, a man of 26 years bitten on October 21st, 1949, received only six injections at irregular times and died of rabies on November 10th, 1949. The treatment of the third, a boy of five years believed to have been bitten on May 19th, 1950, was not commenced until July 26th, 1950, and 11 injections were given. He has survived, and it is possible that he had never been bitten.

One of those bitten also died within a month of the bite, but of intercurrent disease, death being definitely established as not due to rabies.

Excluding the above four cases, 62 persons definitely known to have been exposed to infection were treated. Treatment was begun at varying periods after the bite and with the results as set out below.

Table VIII

Period	Number of persons	Survived	Died
Same day	39	37	2
2nd "	11	8	3
3rd "	2	2	—
4th "	2	2	—
8th "	1	1	—
9th "	2	2	—
10th "	3	3	—
18th "	1	1	—
One month ...	1	1	—
Total	62	57	5

Of the 62 persons treated, five died of rabies, a failure rate of 8 per cent.

It has been asserted that only 15 per cent. of persons bitten by dogs proved to be rabid and infective at the date of biting ever actually develop rabies. Applying this incidence rate, the 62 cases under consideration might have been expected to yield nine cases, whereas the number actually developing the disease was five. This apparent reduction, however, is not statistically significant and might have been the result of pure chance (some 20 times in 100 samples). Without going so far as to say treatment proved useless, it is at least fair to state that there is no evidence that it reduced the incidence of rabies in those bitten materially below the rate that is generally accepted as probable in the untreated. This is a most disturbing observation.

It is noteworthy also, that those persons who delayed opportunity to commence treatment do not appear to have suffered any inconvenience. The treatment of all the casualties began immediately.

Examination of the histories of the cases of failure reveals the following facts.

Table IX

Case	Sex/age	Date of bite	Treatment begun	Number of injections	Date of death	Remarks
L.K.L.	M/20	21.10.49	22.10.49	21	7.4.50	Bitten by dying brother
J.G.S.	M/32	17.8.49	18.8.49	14	30.11.49	May have been bitten earlier
Y.K.S.	M/8	21.8.49	22.8.49	14	13.9.49	Attended regularly
L.C.	F/45	22.8.49	22.8.49	14	27.9.49	Attended irregularly
W.L.F.	M/5	1.4.50	1.4.50	14	3.5.50	Attended regularly

Only one of those cases was irregular in attendance; she missed four days in the middle of her course. The fact that death occurred in five weeks indicates that treatment had very little chance of being effective. In three cases death occurred about a month after the bite. The longest delay was not quite six months. Obviously, prophylaxis had no effect on any of those five cases.

Table VII may not appear to agree with Tables VIII and IX, but it must be noted that Tables VIII and IX include the case dying in Sumatra whereas Table VII refers only to Hong Kong deaths. Table VII also includes an analysis of persons bitten by unidentified animals whereas Tables VIII and IX deal only with persons bitten by animals definitely proved to be rabid by *post-mortem* examination.

Tracing of Animals Reported because they had Inflicted Bites.—In response to propaganda, thousands of persons reported having been bitten. In all cases an attempt was made to trace the animal responsible, but only in a relatively small proportion of cases did this prove possible. The facts are set out in Table X.

It will be noted that, in 1949, in not one-quarter of the cases of bites was it possible to identify the animal. Of those which were impounded only some 3 per cent. were found infected at the height of the canine outbreak. It is reasonable to suppose that a slightly higher percentage of the untraced dogs were rabid but it is impossible to estimate how many persons might have been bitten by the same dog. However, if from the 2,747 persons bitten by the known dogs during the period of active outbreak 66 were definitely exposed to risk of infection, then it may be argued that it is to be expected that out of the total of 11,426 bitten during the same period at least some 300 may have been so exposed. However, as against that line of argument, the evidence as shown by the incidence curve of cases in dogs is rather against a very extensive canine spread over and above those detected and it becomes extremely difficult to assess the real rate of exposure to positive risk of infection. In view of the apparent virulence of the local infection, the few failures, though unfortunate, may be actually less than might have been expected.

Complications of Treatment.—All the 18,718 persons reporting bites received prophylactic treatment which was com-

TABLE X
BITES REPORTED AND ANIMALS TRACED

Year	Persons reporting bites	Animals impounded for biting			Cases of untraced animals	Animals found rabid		
		Dogs	Cats	Monkeys		Dogs	Cats	Monkeys
1949	5,335	1,208	41	0	4,086	40	0	0
1950	6,091	1,539	115	2	4,435	8	0	0
Jan. to Aug., 1951 ...	2,287	773	39	2	1,473	0	0	0
Totals	13,713	3,520	195	4	9,994	48	0	0

menced immediately and continued until either the dog was declared non-infective or a complete course of the injections had been administered. In spite of this large number, and although numerous reports of anaphylaxis were received, only three cases of neurological complications have come to notice. It is not claimed, however, that this is a true picture. On the contrary, it is only too likely that cases would not have been brought to the attention of the health authorities even if they had been diagnosed. The three cases in question came to notice only by accident in the course of other investigations ; one, indeed, was reported first as a case of poliomyelitis. Nevertheless, the fact remains that few cases appear to have found their way to the Government hospitals and if there had been any serious number of them, sooner or later some notice would have been taken. This matter is the subject of further investigations.

PREVENTIVE MEASURES ADOPTED

As an anti-rabies measure, the law of the Colony required the reporting of bites, as already mentioned, also the licensing and inoculation of all dogs, prohibition of import except under permit, conferment of wide general powers on the health and veterinary authorities to control the movements of animals and the requirement that all dogs should be leashed or muzzled in public places. The last requirement has always been most unpopular with dog owners, even of the better class—one might go so far as to say particularly amongst those who considered themselves dog lovers—and it was more honoured in the breach than otherwise.

The regulations were immediately enforced rigidly. All movement across the harbour of dogs from the mainland was prohibited. Dogs found wandering collarless were shot on sight. The public were warned of the danger by Press, radio, rediffusion and "loud hailer" vans, urged to report bites at once, and advised to keep their dogs under control or risk having them destroyed as "strays." Considerable public interest, not to say alarm, was rapidly aroused and on the whole the public response was excellent. There was, however, very strong protest against the wholesale shooting of stray dogs. This method—never really satisfactory, as only too often dogs escape, wounded, to struggle home in pitiful condition to the indignation of their owners and other good-hearted people—is suitable only in rural areas and totally unsuited to closely built-up city streets or squatter settlements. The police themselves, who were charged with this disagreeable duty, disliked it intensely. Dog trapping was found equally impracticable for several reasons. Suitable traps, and particularly suitable sites to set them where most needed, were not available. The police resorted to dog patrols on foot equipped with long bamboo snares and the Urban Council organised a mobile dog-catching unit equipped with a large van, nets and snares. This unit, consisting of a foreman, three dog catchers and a driver, patrolled the infected areas, systematically snaring and netting every dog found wandering unmuzzled, and in a very short time acquired great efficiency. The dogs thus caught were not destroyed immediately but held for two or three days to allow owners to claim them if they so desired. In every case where the owner of a dog found wandering and unmuzzled could be traced, he was prosecuted, regardless of whether the dog had been destroyed or not, and if, also, the dog was unlicensed, he was prosecuted on both charges. Considerable publicity was given to those prosecutions, for propaganda purposes.

The method of controlling dogs did not become fully operative until June, 1950, and it is a rather striking coincidence that not a single case of canine rabies has been discovered since that month. The results of the activities of the Dog Control Unit are summarised below.

TABLE XI
DOGS CAPTURED WANDERING UNMUZZLED

Year	Dogs caught	Found licensed	Dogs destroyed	Returned to owner	Owners prosecuted
1950 ...	235	15	228	7	13
1951 (Jan. to July)	249	34	215	34	62
Totals ...	484	49	443	41	75

It will be noted that just 10 per cent. of the dogs caught had been licensed but that the proportion of licensed dogs is increasing.

It is perhaps advisable to point out that in Hong Kong it is not the owner who is licensed to keep a dog (in which case he could replace one animal by another) but the individual dog which is "licensed to live." Licences may be transferred if the dog changes owners. The reason for this is that under Hong Kong conditions it is desirable to be able to identify an individual animal. A description of the dog appears on the licence form.

When a dog was found rabid a general inspection of the locality where it had been found was made by police and health inspectors. All possible dog contacts were collected and destroyed at once and a general warning was given to every resident to report any biting injuries. Similarly, when a human case died of rabies after being attacked by a cat, all the cats in that particular locality were rounded up and destroyed. This ruthless destruction of possible contacts probably had more effect in checking spread than any other step. The measure naturally was not popular with owners of contacts destroyed, but it was supported by public opinion at large.

All cases reporting dog or cat bites to the police were referred at once to Government clinics, where treatment was prescribed by an expert with many years of experience. The wound was usually cauterised with nitric acid. The normal prophylactic treatment given was 14 injections of 2 and 4 per cent. vaccine prepared by the Semple method, using a Kasauli strain. If the dog showed no evidence of rabies by the seventh day the Veterinary Officer notified the doctor

treating the case and injections were suspended, but the dog was kept under observation until the 10th day. Had any evidence been shown in the last three days the patient would have been notified to report for further injections, but in actual practice no dog which was healthy by the seventh day ever showed symptoms at any later date. All cases in which the dog was not identified received a full course. Where actual rabies was proved in the dog, 4 per cent. vaccine was used and also in all bites involving the fingers or face and neck. A total of 18,718 persons have been so treated between January 1st, 1949, and August 31st, 1951.

Legislation.—At the end of 1949 the anti-rabies legislation was revised completely. The former requirements regarding licensing, muzzling or leashing, etc., were repeated and additional powers given to health and veterinary officers to enter premises to seize suspicious animals. Dog owners were required to report if their dog had bitten either a person or another dog and heavy penalties—up to six months' imprisonment—were provided for any breach of the regulations. As a condition of licence, which has to be renewed annually, it was required that evidence must be produced to prove that the dog had been inoculated against rabies by a competent and recognised veterinary officer during the current licensing period. As a result of this, 11,401 dogs were inoculated in the first four months of 1950 and to date 3,856 have been so protected in 1951. It is now estimated, very roughly, that probably about 60 per cent. of the dogs in the Colony have been inoculated. Licence fees were increased to cover the expense of inoculation and the work is done largely by a specially trained staff of Urban Council officers working under the supervision of the Government Veterinary Officer. Special reduced fees are charged to the peasant type of farmer to encourage them to bring their usually half-wild watch dogs under control, and the response has been most gratifying. The drive against straying dogs continues and has markedly reduced their numbers.

The new legislation also makes it an offence to be in possession of dog or cat flesh for human consumption. This clause was inserted, not so much as an aesthetic protest, but because it is believed that the importation of puppies for food had been responsible for the outbreak. Importation had been and still is illegal, but evasion had always proved difficult to establish in court. By making it an offence to possess, and authorising health officials to enter, search and seize on suspicion, it was hoped to strike a blow at the illegal trade in dogs. There have been one or two prosecutions under the new legislation but it is doubtful if it has had much effect on the control of rabies as such.

One other factor, though not primarily an anti-rabies measure, probably has had more effect. During the period under review the border has been fenced and a much more rigid immigration control established. This, in addition to the main purposes, has helped to restrict the unwanted movements of dogs. Although it cannot be maintained that the risk of invasion by rabies has been entirely eliminated, there is reason to believe that this has been greatly reduced and also, should rabies be introduced, the risk of a widespread outbreak in face of the wholesale immunisation programme is now fairly remote.

Veterinary Aspect of the Outbreak

From the veterinary point of view, this outbreak of rabies in Hong Kong presented no unusual features nor were the measures adopted to combat it in any way unorthodox. It is worth recording, however, that an attempt was made to immunise the dogs on a Colony-wide scale, an undertaking made possible by the restricted area involved.

There seems little doubt that the outbreak was started in 1949 on the mainland portion of the Colony by the large influx of refugees from China bringing with them dogs incubating the disease. Spread from the squatter areas formed by these refugees was assisted by the complete disregard for regulations in these camps, the dogs, many of them half starved, being allowed to roam at large. From then on the disease appeared in and around the city amongst animals of known and unknown ownership.

It is likely that in the early days of the outbreak, and when it was at its height, many undetected cases occurred, particularly amongst animals in the outskirts of the city bordered by rough hill country which probably absorbed numbers of dogs in the running stage of the disease. Latterly, however, the absence of spread would seem to indicate that, subsequently, undetected cases were few, if any.

Form of the Disease.—In the cases observed the disease appeared only in the furious form, no case being discovered of so-called dumb rabies or of intermediate or atypical form.

In those cases observed, the transition from the stage of excitement to that of fury appeared to be short, and although all phases of the disease were classical they did seem to be of brief duration. This constant feature lends support to the view that in this outbreak the virulence of the infecting virus was high.

Preventive Measures

In reference to the application of the preventive measures mentioned earlier in this paper, the following comments are thought worthy of record.

1. *Compulsory Inoculation.*—Legislation already existed covering licensing, and the new regulations introduced in January, 1950, made it compulsory for all applicants for dog licences to present a valid certificate of rabies inoculation before a licence was issued. Inoculations were carried out by six teams of inoculators, four in the urban areas and two in rural districts. At first these teams issued a simple inoculation certificate ; later, both inoculation and licensing were combined and one document covering both was issued at the inoculating centres.

Two brands of vaccine were used, consisting of 20 per cent. phenolised brain tissue of caprine and equine origin respectively, and both of American manufacture. One injection only of 5 c.c. or 10 c.c. was given, dogs over an estimated 20 lb. in weight receiving the larger doses. That the immunity produced by one such injection would be waning from the third month onward was recognised, but until a more permanent method of immunisation becomes available, the insufficiency of annual inoculation with this material had to be accepted.

While the disease was still a source of anxiety and the subject of Press publicity, owners responded well and animals were brought freely to the inoculation centres and to the surgeries of private veterinary surgeons. As the epidemic subsided, however, the numbers fell off, to be revived in waves with each publicity effort put out : in this disease, as in others, public memory appears to be short. Vigour in enforcement and publicity must be continuous in order to maintain a reasonable percentage of inoculation. The charge made by the Government for inoculating dogs was H.K.$10 in urban areas, but this service was carried out free in country districts. This meant in effect that the townsman paid in all H.K.$20 (inoculation plus licence) per year to keep a dog over three months old, whereas the countryman's dog licence cost him H.K.$2 inclusive. The whole inoculating campaign was calculated, and later proved, to be self-supporting financially. However, it soon became evident, particularly in the poorer city districts, that instead

of a decrease in the dog population, as had been expected, there were in fact more evasions. In such circumstances, unless enforcing measures are adequate, the high cost of dog keeping appeared to defeat its object and the price paid for efficient enforcing measures might well balance the deficit resulting from cheaper or even free inoculation.

2. *Restriction of Movement.*—While the outbreak was at its height every effort was made to prevent movement of dogs and cats from the mainland to the island of Hong Kong and vice versa, and permits for such movements were withheld completely. From January, 1951, onwards movement was allowed on permit, the applicant in all cases being required to produce his inoculation/licence certificate. One in five applicants could not do so. Restriction of movement during the outbreak was, of course, important and the retention of the permit system after its subsidence is justified by the control it exercises on movement and on proper documentation of the dog. The measure is only partially successful since little or no supervision is possible on cross harbour motor boat traffic.

3. *Observation of Dogs with a Biting History.*—Of the animals impounded in Government kennels for biting, all those which proved rabid exhibited clinical symptoms of the disease on admission. In most cases the disease had progressed to the second or furious stage at the time of capture, a few were passing from the initial stage of excitement to the second stage, but all showed classic symptoms with death from rapidly progressive paralysis.

A large proportion of dogs with a biting history held for observation were guard or watch dogs which inflicted their bites on intruders, legal or otherwise. A number of dogs and most of the cats under observation became savage while being handled for injury, sickness or for some other reason. Bites inflicted on children by pet dogs, often newly acquired puppies, were frequent and this danger was perhaps emphasised by the occurrence of a positive case in a puppy nine weeks old. Neither the bitch nor the remainder of the litter subsequently could be traced.

4. *Muzzling and Leashing of Dogs in Public Thoroughfares.*—The effect of this regulation materially reduced the number of dogs at large in the city streets, and in this respect it could be considered a useful measure in the rabies campaign. As, however, it was legal for a dog to be at large effectively muzzled, it was not long before uncontrolled and ineffectively muzzled dogs appeared on the streets. Its chief value as a dog control measure may well lie in its differentiation between the controlled, cared-for dog and the stray, thus enabling seizure of any unmuzzled and unleashed dog found at large. Whatever the degree of importance that is attached to this measure, it can be said that the streets of Hong Kong are remarkably free from wandering dogs, a fact which is commented on by visitors.

The farther away from the city the less this regulation is observed until in the rural areas it is rare to find a dog either leashed or muzzled. Indeed, it can be said that from the outset this regulation has been disregarded in the country areas where its enforcement is, of necessity, more difficult.

5. *Control of Importation.*—The new regulations prohibited the importation of any dog or cat without a permit issued by the Veterinary Officer, to whom wide discretion in regard to conditions of entry was delegated. The Veterinary Officer did not in fact exercise this discretion, sending all dogs from abroad to quarantine for six months except in the case of those originating in the United Kingdom or Australia.

In a Colony of this sort, with a land frontier with China and a maritime trade employing shallow draft junks, evasion of these regulations could not be avoided, but it is not possible to say to what extent such evasion took place. In so far as the normal ports of entry are concerned, there were probably few illegal importations of dogs or cats, the authorities being alert for the detection of smuggled animals. They were assisted throughout by the co-operation of the airway and shipping companies.

It is also unlikely that either dogs or cats were illegally and deliberately imported by junks and other small craft to any great extent as there would appear to be neither point nor profit in so doing. Most of these junks, however, carry livestock and there is nearly always a dog or a cat permanently attached for guarding and rat catching respectively. It has been contended that these animals are a perpetual source of infection, but it is considered that the danger, although present, is very much overrated. The animals are permanent residents of the junks which they rarely leave and are nearly always tied up when the vessel is in port. They spend most of their lives in isolation afloat and on that account their chances of either contracting the disease in other ports or exhibiting it in Hong Kong are now considered remote.

That the geography of the Colony and the nature of its activities presented great difficulties in the control of dog and cat entry was apparent from the start of the campaign. Nevertheless, it is considered that vigorous enforcement was an essential and contributing factor in bringing the disease under control and in particular in minimising the risk of sporadic re-introduction. The maintenance of this Colony rabies-free depends largely on the efficiency of this enforcement.

The police and immigration authorities, as well as the medical, veterinary and sanitary services, were all involved to a greater or lesser extent in bringing this outbreak under control, and throughout the campaign the greatest co-operation and liaison was established between Government departments concerned and with the Press.

POULTRY STOCK IMPROVEMENT PLAN

At a recent meeting of the Poultry (Stock Improvement) Advisory Committee, the Chairman, Mr. G. S. Dunnett, C.B., stated that the Minister had decided to accept their recommendation, submitted at a previous meeting, to reopen the Poultry Stock Improvement Plan to new members this year. Although it has not so far been possible to overcome the shortage of poultry advisory staff, the Committee's recommendation was that in the interests of stock improvement all grades of the Accredited Section of the plan now in operation, namely, Breeders' Grade, Commercial Stock Suppliers' Grade, and Accredited Hatcheries Grade, should be opened to new entrants for the 1952-53 accreditation season. New members admitted to the plan will not be entitled to supplementary feeding-stuffs rations. The manner in which application for admission to the plan should be made will be announced later.

The Minister has appointed Mr. J. Rossall, Vice-Chairman of the Poultry Committee of the National Farmers' Union, to be a member of the Committee. Dr. R. Coles, M.Sc. (Econ.), M.Sc. (Agric.), B.A., Ph.D., the Ministry's Chief Poultry Advisory Officer, has been appointed Chairman of the standing Sub-committee appointed to deal with the administration and regulations of the Poultry Stock Improvement Plan.

* * * * *

Half of the estate of Miss Edna M. Walker, Drumblair Lodge, Forgue, who left £14,320, goes in bequests—three parts to the Royal Society for the Protection of Birds; two parts to the Royal (Dick) Veterinary College; and one part each to the Scottish Society for the Protection of Wild Birds, the Council of Justice to Animals and Humane Slaughter Association of Scotland, and the Scottish Society for the Prevention of Cruelty to Animals.

USE OF CYCLOPROPANE AND OXYGEN IN CLOSED CIRCUIT ANAESTHESIA OF THE GOAT

BY

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AND

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In the course of a research programme supported by a grant from the Medical Research Council, one of the writers (J. T. S.) was interested in the effect of various synthetic materials as mid-shaft prostheses in the femur of the goat.

Since anaesthesia was likely to be prolonged, and anaesthesia of the ruminant presents unique problems, the anaesthetic of choice was somewhat difficult to ascertain. Such an anaesthetic and method must have the following criteria :—

1. Maintenance of adequate airway at all times, especially in the event of regurgitation.
2. Low toxicity.
3. Quick recovery rate to protect the prosthetic leg from damage due to narcotic struggling.
4. Wide safety margins.
5. Readily controllable depth of anaesthesia.

Initially, intravenous nembutal was tried, when salivation was profuse, although moderately controllable, and recovery was slow with marked excitement, which was very undesirable. Some goats were then anaesthetised by using sodium thiopentone drip with a polythene cannula in one of the radial veins, the thiopentone being washed in with normal saline. This method proved difficult in view of variable and unpredictable depth of anaesthesia during the operation and uncertainty of administration. Certain difficulties with cannulation also were experienced, notably anatomical variations in the arrangement of veins in the forelimb.

In view of work published by Gregory (1947), one of the writers who was acting as anaesthetist (O. G. J.) decided to try cyclopropane and oxygen, using a McGill's cuffed intratracheal tube. Initially adopting the method described by Gregory, a to-and-fro circuit was used and this was found to be superior to previous methods employed. The success achieved by this method, using minimal dosage initial thiopentone induction instead of nembutal (Gregory), followed by cyclopropane, encouraged us to utilise a converted Heidbrinck closed circuit apparatus. There seems no doubt that jugular puncture is the best route for anaesthesia with thiopentone, preparatory to intubation.

We found that with thiopentone there was far less salivation than with nembutal. The advantages of a closed circuit circle anaesthesia with cyclopropane and oxygen are :—

1. Constant and controllable level of anaesthesia at all times during surgical interference.
2. Adequate oxygenation of the patient.
3. Carbon dioxide content in respiratory exchange rapidly variable.
4. Adequate airway maintained, and regurgitated material is not inhaled.
5. Rapid recovery rate.

This method of anaesthesia should be of great value in the anaesthetisation of a wide variety of animals, and especially in the larger animals such as the horse, where rapid recovery is essential.

Where a patient, when conscious, may be a dangerous animal (for example, large carnivores) it will be appreciated that the method described is invaluable as has been proved to be the case.

We should like to express our grateful thanks for invaluable assistance received from Professor McCunn and Professor Scorgie, of the Royal Veterinary College, staff and technicians of the Anatomy Department, Royal Veterinary College, and Mr. G. Winter, of the Royal National Orthopaedic Hospital, Plastics Research Unit.

Reference

Gregory, R. A. (1947.) *Vet. Rec.* **59**. 377-8.

ARTIFICIAL INSEMINATION DEVELOPMENTS IN THE U.S.A.

Professor Hugh Livingstone, of the Dairy Division, University of Minnesota, contributes the following informative notes on A.I. in America to the February issue of the *Dairy Farmer*:—

"To-day there are over 16,000 co-operative A.I. stations in America. They are responsible for inseminating some 4,000,000 cows every year. At one time there was severe competition between stations in some areas, but there is now a National Body to supervise and organise them into a working entity. This National Body gets a sizable share of each $5 insemination fee (that is about 35s. in sterling to-day); consequently it has large sums available for development and research. Thousands of dollars have been spent on new centres. Some of these are really elaborate; they include research laboratories and even have visitors' galleries from which parties of students and farmers can watch semen collection and processing. (They watch through special "one-way" windows so that they can see the bulls but the bulls cannot see them.)

"Research is largely along two lines—improving conception rates by disease control and determining the best place for depositing semen in the cow. With regard to the former, experts are now working to classify causes of infertility and in evolving special techniques to overcome them Good results are being claimed against *vibrio foetus*—which incidentally seems to be more prominent in contagious abortion-free herds—by the use of antibiotics with semen. These enable the sperms to live longer and they reduce the risks of bacterial infections. Direct infusions of streptomycin and penicillin into the cow's reproductive tract have also been tried as a way of clearing up infertility problems. Animals that have never previously been known to breed have conceived to a first or second insemination after such treatment.

"The question of where semen should be placed within the cow is still highly debatable. But there are two arguments in favour of intra-cervical insemination. By this method a skilled operator can inseminate a pregnant cow without abortion resulting. This is quite an important point when it is remembered that three or four out of every 100 pregnant animals will show heat symptoms. And when they do the farmer will call in the inseminator and will not be above heaping wrath on the heads of the station when his cow aborts a few days later. The additional advantage of this method is that it has been shown to give the least number of repeat breeders So it may yet become the accepted method.

"But there is one big problem that American A.I. has not solved. Many farmers here still regard A.I. as the sure and easy road to higher yields, even when their herd management methods can only be termed lamentable. Such farmers are doomed to disappointment. All they do is waste good genetic material (And it *is* good material; the American average for A.I. bulls with five or more daughters on test in 1950 was 438 lb. butterfat.) Yet while A.I. is now breeding over 4,000,000 cows a year, the Dairy Herd Improvement Association is only milk-recording 1,000,000 cows a year. Thus—as in England—there are thousands of farmers using A.I. who have no yardstick with which to measure their cow management and set them on the road to improvement. For unless management is on a reasonably high level, farmers are not able to take advantage of what is perhaps one of science's greatest gifts to agriculture."

* * * * *

Weekly Wisdom

Continuous efforts should be made to convince our brilliant but slightly case-hardened sister profession that a criminal act is often the first sign of an illness. The figure of Justice, blinded so that she shall better feel the tilt of the scales, is made ludicrous if at the same time she hugs to her bosom prejudices against facts long known.—Dr. C. G. Learoyd (*Brit. med. J.* Correspondence on "Criminal responsibility").

CLINICAL COMMUNICATION

PURPURA IN THE PIG

W. A. M. GORDON and D. LUKE,
Veterinary Research Laboratory, The Farm, Stormont

Recorded cases of allergic phenomena in the pig appear to be rare; the following case in 12-week-old pigs therefore may be of interest. Mr. Forbes, M.R.C.V.S., of Magherafelt, consulted us with regard to a condition in a litter of pigs. At the time of his visit two pigs were already dead, a third dying and the remaining four were all affected. The pigs were dull though there was no marked loss of appetite or elevation of temperature. The two dead pigs had had an illness lasting three days. The most striking abnormality seen was the presence of numerous haemorrhagic spots in the skin. These spots, varying in size from a pin point up to nearly 1 cm. in diameter, extended over the whole of the body surface. No skin irritation was present.

One of the dead pigs was examined at the laboratory. The carcase was in good condition. The skin was covered with brownish red spots and similar spots were found on the mucous membrane of the nose, lips, tongue and on the conjunctiva. The lymph glands were very congested and almost black in colour. The serous membranes of both thorax and abdomen were blood-splashed. The haemorrhagic spots were especially prominent on the serous surface of the small and large intestine and there were also numerous blood spots on the mucous membrane of this part of the gut. A large haemorrhagic area completely covered the cardiac muscle and similar lesions were found on the mucous surface of the bladder. The haemorrhagic spots on the mucous membrane did not correspond with those on the serous surfaces. The kidneys did not show any macroscopic lesions. A diagnosis of purpura was made.

The four pigs remaining in the litter were given 2·5 ml. of "Anthisan" (pyranisamine maleate). A marked response was seen within eight hours; the colour of the spots was less intense and the pigs much brighter looking. The pigs were given an injection of adrenaline the next day and all made an uninterrupted recovery. The skin superficial to the haemorrhagic spots eventually scaled off.

In the veterinary literature available no records of similar cases in the pig have been found. Urbach, under the heading of "Thrombocytopenic Purpura," describes a similar condition in the human subject. This condition is characterised by the appearance of countless haemorrhages in the skin, mucous membranes and internal organs. Examination of the blood shows a secondary anaemia, marked prolongation of the bleeding and clotting time of the blood and a great decrease or almost complete absence of thrombocytes. Urbach recognises two forms of the disease—an idiopathic form (Werholf's disease), probably of infectious origin, and an allergic form. In the former, although the number of platelets is reduced they are never completely lacking and those present are altered in appearance, whereas in the allergic form the thrombocytes disappear completely in a very short time, but promptly reappear following the injection of adrenaline. This response to adrenaline suggests that destruction of platelets does not occur, and Urbach regards this rapid disappearance of the platelets into the parenchymatous organs as an expression of a severe allergic reaction.

It is regretted that no blood examination was made in the present case, but from the clinical signs and the prompt response to an antihistamine drug and adrenaline a tentative diagnosis of thrombocytopenic purpura is advanced. The pigs were being fed ordinary pig meal and no definite allergen could be incriminated. A second litter of slightly older pigs on the farm at the time of the trouble remained healthy.

Reference
Urbach, E., & Gottlieb, P. M. (1944.) "Allergy." London: William Heinemann Ltd.

LABORATORY COMMUNICATION

TUBERCULIN SENSITIVITY IN THE GUINEA-PIG AS AN AID TO DIAGNOSING TUBERCULOUS UDDER INFECTIONS

J. K. L. PEARSON, PH.D., B.Sc., M.R.C.V.S.

In a recent annotation (*Vet. Rec.* **63**. 739, 1951) J. F. refers to work of Maitland (1950) in which the cell grouping technique for the diagnosis of tuberculosis of the udder is used.

It is of interest to note the high percentage of efficiency of this method as used by Maitland even in the examination of bulked milk. Nevertheless, an error of 12 per cent. still exists as determined by concurrent biological tests. In addition, a six- to seven-week delay results while the guinea-pigs are under test and a further three- to six-week delay elapses beforehand while the herd milk supply is under biological test by the health authorities.

In an effort to avoid delay in the detection of carrier cows the principle of tuberculin testing guinea-pigs used in such biological tests has been investigated in Northern Ireland since 1944. A technique has now been evolved which will diagnose tuberculous udder infections within 19 to 21 days with a very high degree of accuracy. It is now used as a routine test on bulk samples taken from up to 40 cows and for samples taken from clinically suspicious individual udders where microscopical milk tests have given doubtful or negative results.

Preliminary tests with undiluted and diluted positive samples indicated that the earliest time for testing guinea-pigs was 19 to 21 days after inoculation of the milk. The optimum testing dose of tuberculin is 0·03 mg. given intradermally and skin reactions are read after 18 to 24 hours. The inoculum consists of 0·1 c.c. of a 1 : 5 saline dilution of P.P.D. tuberculin containing 0·15 mg. per c.c. and the flank has been found to be the most convenient site for the test.

Experiments using positive milk samples showed that developing infections could be detected at 21 days in guinea-pigs inoculated with milk diluted with normal saline 1,000 to 10,000 times. The development of the infection and its detection at 21 days was found to depend proportionately on the number of organisms present in the original milk sample as determined by approximate counts made on microscopical examination.

In contrast, Maitland found that her microscopical method had a high degree of accuracy at dilutions of no higher than 1 : 32, and that the highest dilution giving positive results was 1 : 128. Moreover, in her preliminary dilution tests she used milk giving very little sediment on centrifugation; it is highly probable, therefore, that in a herd where clinical or subclinical mastitis was a problem the application of her test might not in practice be quite so effective.

In the dilution experiments with guinea-pigs at Stormont

the diluted milk was not centrifuged but in tests on routine bulk and individual samples, 15 c.c. of milk is spun for 20 minutes at 2,500 r.p.m., and 0·5 c.c. of sediment and supernatant fluid inoculated intramuscularly into the guinea-pig thigh. Three weeks later the site for testing is clipped and treated with dipilatory paste, preferably a few hours before the tuberculin inoculation. A positive reaction is indicated by the development of a cream-coloured wheal approximately 10 to 25 mm. diameter. The skin at the site is generally thickened and a red inflammatory rim may be present round the circumference of the wheal. Redness alone is considered negative but if obvious thickening of the skin is also present it is advisable to make a microscopical examination of the inguinal glands after slaughter for the presence of acid-fast organisms. The wheal, however, is the all-important feature if a bovine infection is present.

In a survey of over 250 individual and bulk milk samples since the tests were started only one misleading reaction has been given in a test performed after the 20th day. A doubtful reaction was shown at the 27th day but at retest and *post-mortem* examination a week later the presence of an active infection was confirmed.

The principal advantages of the test may be summarised as follows:—

1. Its application cuts down the quarantine period of cattle under observation or suspicion to a maximum of 21 or 22 days.

2. Groups of 20 to 30 cattle can be tested satisfactorily and involve no great hardship on the laboratory worker or sampler.

3. A great saving in guinea-pigs and in their maintenance and feeding is obtained.

4. In our experience approximately 6 to 7 per cent. of milk samples submitted for tuberculosis examination give suspicious microscopical results and must inevitably be subjected to biological test.

5. Bovine infections in lymph gland material, sputa, faeces or other material are readily detected without involving prolonged biological or cultural tests.

Reference

Maitland, Mary L. Cowan. (1950.) *J. Hyg.* **48.** 397-401.

ALDERSHOT SHOW FARRIERY COMPETITION

From July 9th to 12th inclusive will be held that great attraction, the Aldershot Show, and again on the Rushmoor Arena, to which site it was restored last year. A notable feature of that display was the Farriery Competition organised—with a boldness which met with its due reward—by the Royal Army Veterinary Corps. It was indeed an outstanding success and we are glad to note that the Corps again are accepting responsibility for this event, which it is confidently hoped will prove as popular as before.

On Thursday, July 10th, there will be a Senior Class for W.O.s and N.C.O.s; a Junior Class for Army Farriers will be held on Friday and a Special Class "open to the world" on Saturday. There are to be one military and three civilian judges.

Schedules and entry forms can be obtained, on request, from the Officer Commanding, R.A.V.C., Laboratory, Thornhill, Aldershot.

NEW INSTRUMENTS AND APPLIANCES

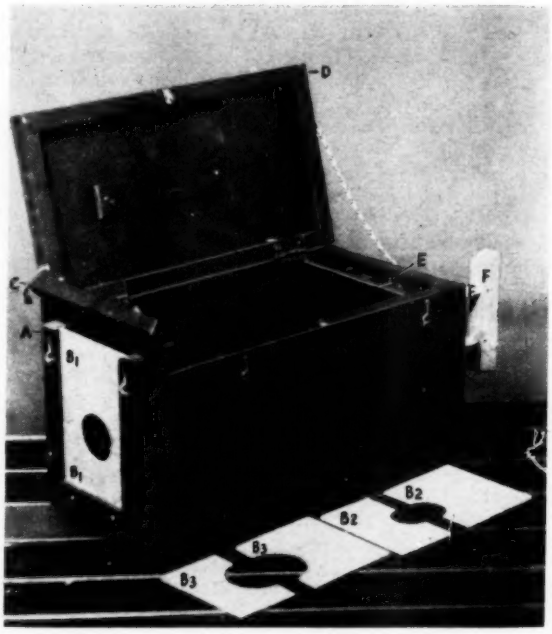
SMALL-ANIMAL RESTRAINT APPARATUS

JEAN M. PINKNEY, M.R.C.V.S.,
North Shields

The writer is aware that from time to time boxes have been designed for restraining cats and other small animals during the induction of anaesthesia.

During the past nine months over 200 small animals have been anaesthetised by the following method without any adverse effects. The design now described has been found invaluable when working without any assistance. Apart from anaesthesia it has been used for ophthalmoscopy, examination of the mouth of refractory animals, irrigation of the ears and other forms of medication.

Though the writer's boxes are made of wood, with the "stocks" made from hard-board, it is suggested that metal might be even more satisfactory. The design, details and measurements are clearly brought out in the photograph.



A Slotted front carrying movable stocks.
B_1 Set of stocks in position (medium size, $2\frac{1}{4}$" aperture).
B_2 Set of small stocks ($1\frac{3}{4}$" aperture).
B_3 Set of large stocks ($2\frac{3}{4}$" aperture).
C Lid closing and fixing stocks.
D Lid of box.
E Plate of pusher.
F Handle and rod of pusher.

The principle of working is this :—

(1) Select the pair of stocks fitting the patient and slide these into the slots.

(2) Place the animal in the box and close the lid.

(3) Leave animal shut in for a few minutes till it shows a desire to come through the opening.

(4) Now open the stocks wide, moving out of sight behind the box as you do so; most cats will then put out their heads.

(5) Drop the stocks and shut firmly.

Note.—Only when the psychological element in this programme fails should the pusher be used.

The stocks and lid are operated separately, so that while administering anaesthetic the lid may be opened to observe the patient without risk of its escaping.

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CANNULA FACILITATING REMOVAL OF ANAL GLANDS

FRANCIS E. RICKARD, M.R.C.V.S.,
WOKING

The removal of anal glands—a rather tedious piece of minor surgery—is facilitated by the use of an instrument kindly prepared to my specification.* It consists of a fine cannula, which is inserted into the anal duct, and ribbon gauze provided is packed into the gland though the cannula with a stilette. The hard sphere so formed is readily palpable and this makes much easier the complete resection of the gland without removing an unnecessary amount of peri-anal tissue.

It is my practice to infiltrate the area with adrenaline, which makes the operation almost bloodless.

The same instrument has been used with equal facility for a Pekinese and an Alsatian. Once anaesthesia has been induced no difficulty is experienced in introducing the cannula into the duct.

The conception of the instrument was not original. In principle it is the same as one used by Dr. Claude Kealey, of Ottawa.

* Messrs. Arnold & Sons, London.

ABSTRACTS

Hexachlorethane : Toxicity and Anthelmintic Efficiency in Sheep*

A small field trial on hexachlorethane in sheep is reported. A proprietary hexachlorethane-bentonite dispersible powder was given in aqueous suspension to two groups of 15 sheep at 15 and 30 grammes. At the same time 15 sheep were drenched with 1 c.c. chemically pure carbon tetrachloride in 4 c.c. liquid paraffin. Other sheep had 2 c.c. carbon tetrachloride in 3 c.c. paraffin.

The 30-gramme hexachlorethane dose caused various degrees of intoxication in eight sheep, two of which died. Two sheep on the 15-gramme dose were affected, one severely. No ill effects followed either dose of carbon tetrachloride. Both drugs showed comparable fasciolicidal effect, but at the higher dose hexachlorethane was more effective against *Haemonchus contortus* than 1 c.c. carbon tetrachloride.

Prior to treatment the sheep had been grazing on natural pasture and all had been dosed four weeks earlier with carbon tetrachloride.

The intravenous and subcutaneous injection of 50 to 100 c.c. of a 30 per cent. solution of calcium borogluconate was found valuable in the treatment of animals suffering from the toxic effects of hexachlorethane.

Southcott remarks that the dose of hexachlorethane for a sheep is bulky and that the cost of treating sheep with 15-gramme doses of hexachlorethane is nearly 10 times that with carbon tetrachloride. J. S. S.

* **The Toxicity and Anthelmintic Efficiency of Hexachlorethane in Sheep.** SOUTHCOTT, W. H. (1951.) *Austral. Vet. J.* **27.** 18-21.

Effect of Vibriosis on Breeding Efficiency in Cattle*

General observations on the course of *Vibrio foetus* infection were made in a herd over a period of five years, and in five additional herds the effect of the disease on the breeding efficiency was investigated over a period of two years. Animals over two years of age, not previously exposed to infection, appeared to be equally susceptible and a general distribution of positive reactors throughout the age groups in a herd is believed to indicate a recent infection of the herd. After infection has persisted from one to three years in a herd there may be a low incidence of the disease in heifers one to three years of age. The disease results in a lowering of the conception rate and an increase in the abortion rate. Control measures recommended are (*a*) use of laboratory tests to aid diagnosis ; (*b*) blood testing all new stock twice, with an interval of four weeks, before placing in herd ; (*c*) use of streptomycin-treated semen in artificial insemination of the herd ; and (*d*) the intra-uterine infusion of 1 gramme of streptomycin in 20 ml. water in all cows and heifers which have failed to conceive after two services.

A. T. C.

* **The Effect of Vibriosis on Breeding Efficiency in Cattle.** PLASTRIDGE, W. N., WILLIAMS, L. F., CHERNAK, C., & EASTERBROOKS, H. L. (1951.) *J. Amer. vet. med. Ass.* **118.** 367-373.

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Male Toad Test for Bovine Pregnancy*

A modification of the technique of extracting gonadotrophin (?) from cow faeces is described. Thirty grammes of faeces are divided into three parts and these are parcelled up in filter paper and secured with string. The three packages are then placed in 100 ml. distilled water and allowed to extract in the refrigerator for not less than 20 hours. The opalescent solution thus obtained is injected into the Indian toad. Ten ml. is given initially, followed by a further 5 ml. at the second and third hours if there is no response, a positive response being the appearance of spermatozoa in the toad's urine. Correct results were obtained in 21 pregnant and nine non-pregnant cows.

[The abstractor has failed to obtain positive responses with faecal extracts from pregnant cows injected into British toads.]

A. T. C.

* **Male Toad** (*Bufo melanostictus*) **Test for Bovine Pregnancy by Filter Paper Dialysis of Hormone Extraction from Faeces.** BHADURI, J. L., & BARDHAN, N. R. (1951.) *Ind. Vet. J.* **28.** 59-61. (Reprinted from *Sci. & Cult.* (1950.) **16.** 264.)

GLASGOW QUARANTINE STATION

In its issue of February 13th the *Glasgow Herald* reports that members of the British Livestock Export Group, at a meeting in Perth, decided to ask their London office to make representations to the Ministry of Agriculture, the Treasury and the Board of Trade for the enlargement of the quarantine station at Glasgow. When it was stated that over 500 cattle were waiting to be exported to Canada and the U.S.A., an official of the Donaldson Shipping Line said that if the Glasgow quarantine station were enlarged there was no reason why most of these animals and the others bought recently should not be shipped by the end of the summer. Mr. J. N. Ritchie, Edinburgh, Deputy Chief Veterinary Officer to the Ministry of Agriculture, said the authorities had been trying to find alternative or additional quarantine accommodation which would take something like a boatload of cattle, and had also gone into the question of enlarging the present station, but difficulties had been encountered in both cases.

REPORT

[**The Nature of Fowl Nephritis.** W. G. Spector. (1951.) A.R.C. Report Series No. 11. London: His Majesty's Stationery Office.]

This well-illustrated report will be of particular interest to pathologists and physiologists dealing with poultry. From his studies, the results of which are discussed carefully and in detail, the author concludes that from the pathological view-point the conditions of domestic poultry that are known variously as "fowl nephritis," "visceral gout nephritis," "renal mononucleosis," and "pullet disease" form one entity, namely, a pyelonephritis. He has made a histological study of diseased kidneys found *post-mortem* in about 10 per cent. of a series of some 500 birds, which were received for examination at Lasswade from breeders in Scotland and the north of England, or came from the A.R.C. Poultry Research Centre at Edinburgh. He obtained evidence that the various lesions encountered, such as enlargement and pallor of the kidneys, the presence of dry urates on the kidney surface and cut surfaces, or dilatation, thickening and rigidity of the ureters, were due to what was essentially a progressive chronic pyelonephritis. This started with interstitial inflammatory changes in the apical portions of the renal pyramids, spreading outwards through the medullary substance into the cortex, and leading eventually to fibrosis and disintegration of the whole kidney.

It seemed possible that the changes, which are described at length and are illustrated in the 88 photomicrographs, were initiated by stagnation of the fowl's semi-solid urine in the collecting tubules, followed by infection. It is noted that in the one case in which bacteriological examination of a lesion of pyelonephritis in a freshly killed fowl could be made, a pure growth of *Bact. coli* was obtained from the kidney and ureters.

Although in most of the fowls with renal lesions urates were deposited on the surface or the cut surface of the kidney, and in a third of the cases there were accompanying visceral deposits of urates, there was no definite support for the view that the kidney lesion was the result of the increased secretion of urates in the urine from a primary hyperuricaemia, nor for an alternative view that the kidney lesion had led to hyperuricaemia and then to visceral deposits of urates. In less than half the kidneys impactions of urates were present in the collecting tubules, while in still fewer cases there were impactions of urates in convoluted tubules and urate deposits in the renal interstitial tissue. It is also suggested that the thickening and rigidity of the ureters was the result, rather than the cause, of urinary tract infection. There was no indication of a hereditary or congenital basis for the disease, and its relation to "messy vent" was obscure.

These pathological observations are interesting and important, and now require supplementing by bacteriological and physiological studies, but the interpretation made of the pathological changes present would suggest the possible use prophylactically of such measures as an increase of fluid intake, and the administration of alkali and of urinary bacteriostatics.

In spite of the fact that this booklet is a collection of various papers from private sources, it is well worth the modest 1s. 6d. asked for it.

REVIEW

[**Pig Husbandry.** Ministry of Agriculture and Fisheries publication; pp. 80. (1951.) H.M.S.O.; 1s. 6d.]

This booklet is not, as the title implies, an authoritative pronouncement on pig husbandry, but a collection of papers read at a conference at Winchester in February, 1951. It purports to contain advice on breeds, feeding, housing and management, disease prevention, the smallholder's problems, and the kind of carcase required by the bacon industry. The first article is by Mr. H. R. Davidson, who seems to have some ideas of his own about the bacon industry, Wiltshire sides, picnic hams, and the use of shoulder meat. The pig breeds he mentions as most suitable for bacon production are the Large White and Danish Landrace. There is no hint that indigenous breeds exist in this country identical with the Landrace, and equally suitable for producing the commercial product the industry has asked for. Mr. Davidson rightly deprecates show-yard methods of selection, and says fecundity has nothing to do with carcase grading. We cannot help thinking that fertility also connotes ability to rear the young. In its turn that suggests mammary glands in adequate numbers, and this leads us to length of carcase side in grading.

Developments in pig feeding are dealt with by Dr. Braude, with illuminating graphs and tables. Fodder beet is mentioned as a suitable pig food, but we are not told what effect it might have on young piglets if fed to the nursing mother. It is interesting to note that he, too, finds antibiotic feeding experiments do not give the amazing results first reported from the United States. Mr. E. G. Morris deals very effectively with diseases, and wisely confines himself to those conditions found commonly on pig farms. His remarks are to the point, and particularly so his insistence upon isolating the ailing pig, even if only a straw truss partition is used. Sodium fluoride needs to be kept strictly under dosage control for worming pigs, and fed only in dry food. Incidentally, it seems to have poisonous effects upon rats eating the 1 per cent. dosed meal. Mr. W. J. Reid talks about pigs on smallholdings. He suggests the Wessex, Large Black, Gloster Old Spot, Essex Saddleback, crossed with a Large White boar to produce a suitable smallholder's pig. Short-sided blue-white-cross pigs have been the bane of the bacon industry for years, and Mr. Reid's suggestions will not help matters much; hereby is emphasised the complete gap between the producer on the farm or smallholding, and the grocer who sells the end-product. The work of the pre-war Pigs' and Bacon Boards seems to have fallen on hard rock.

Mr. Trow, of Messrs. C. and T. Harris, Ltd., Calne, deals with the bacon industry's requirements, and it can only be hoped that some of his co-authors in this publication will digest his words to some purpose, as his statements appear to be based on a wide and lengthy experience inside the industry from an angle obviously not seen by the other contributors.

The book is well put together, as one would expect from an H.M. Stationery publication, but it seems a pity that throughout there appears no hint that here we have tried and proved British breeds of pigs suitable as any Danish Landrace for the raising of uniform commercial type pigs, and, indeed, almost identical with that breed. The compilers of the booklet have included some photographs, including some showing long and short bacon sides. The lesson here might well be carried further by noting that the saddleback sow shown in another photograph has a length from snout to elbow equal to that from elbow to tail!

(*Concluded at foot of previous column*)

THE NEW CHIEF VETERINARY OFFICER

JOHN NEISH RITCHIE, B.Sc. (Edin.), M.R.C.V.S., D.V.S.M.

The appointment, recently announced, of Mr. J. N. Ritchie, B.Sc., M.R.C.V.S., D.V.S.M., to succeed Sir Thomas Dalling as Chief Veterinary Officer, Animal Health Division, Ministry of Agriculture, is a high honour, which he is capable of sustaining with credit to himself and his profession, for the responsibilities of this post are probably as onerous and exacting as any man in the profession can be called upon to undertake.

The ever-increasing scope of the work of the Animal Health Division since the Agriculture Act of 1937 came into force is at the same time a measure of the importance of the work of the profession in the field of State Veterinary Medicine. The upheavals of the war and their aftermath have accelerated changes in the organisation of every branch of the profession, and there are not many veterinary surgeons in Great Britain to-day who are not closely associated with some branch of work administered by the Animal Health Division.

It is hardly necessary to mention the relationship of Local Veterinary Inspectors with officers of the Animal Health Division in tuberculin testing, as there are few veterinary surgeons who are not employed in this way by the Ministry, nor should we forget the assistance veterinary surgeons in practice obtain from Veterinary Investigation and Sterility Officers of the Animal Health Division, backed as they are by Central Laboratories at Weybridge and Lasswade, with their staffs of Senior Scientific Officers able and willing to investigate the more obscure problems of animal disease. These aspects of the work of the Animal Health Division may be all the average busy practitioner knows about the service, but they are sufficient to enable him to realise how large and complex the organisation of the Animal Health Division of the Ministry must be to cover the whole of Great Britain in combating the ravages of animal disease. Apart from these national responsibilities of a Chief Veterinary Officer, there is the wider field of international control of disease with which a C.V.O. must be fully conversant, so that importation of disease can be anticipated and machinery kept ready for action should it get a footing in this country.

From this brief glance at some of the problems confronting a Chief Veterinary Officer, and particularly the close relationship which practising veterinary surgeons have with various members of his staff, it is understandable how interested the profession is in the appointment of Mr. Ritchie as successor to Sir Thomas Dalling.

Michael Curzon, 5, Strand, London, W.C.2.

Mr. Ritchie is fortunate in falling heir to a service when the relations between the profession and the Animal Health Division were never so harmonious, and this happy state of affairs will no doubt be one of the things which he will strive to maintain.

The co-ordination of the work of such large numbers of veterinary surgeons, whole-time and part-time employees of the Ministry, requires a Chief with the widest practical knowledge of Preventive Veterinary Medicine, who at the same time must be an able administrator, and Mr. Ritchie's record of service augurs well for his being just such a one in whom the country and his own profession can have confidence.

Born in Turiff, Aberdeenshire, in 1904, Mr. Ritchie received his early education at Turiff Secondary School. He then studied at the Royal (Dick) Veterinary College and the University of Edinburgh, obtaining the diplomas of M.R.C.V.S. in 1925 and D.V.S.M. in 1926, and graduating B.Sc. in Veterinary Science of the University of Edinburgh in 1927. After six months as a Clinical Assistant in the Royal (Dick) Veterinary College, he entered the Veterinary Service of the City of Edinburgh as Assistant Veterinary Inspector. From 1929 to 1935 he was Veterinary Officer to Midlothian County Council, and from 1935 to 1938 he held a special appointment as Senior Veterinary Officer in the Department of Agriculture for Scotland to administer a scheme of attestation to combat tuberculosis in dairy herds in Scotland. The success of this scheme in Scotland was largely due to the pioneer work stimulated by Mr. Ritchie, and served as a guide when a similar scheme was launched in England and Wales.

At the time of the incorporation of the Local Authority Veterinary Services within the Animal Health Division of the Ministry of Agriculture in 1938, Mr. Ritchie joined the State Service and was posted to Perth as Superintending Inspector, where he remained until 1940. From 1940 to 1943 he served at the Head Office of the Animal Health Division, and in 1943 was sent to the United States to study all aspects of veterinary research and the control of animal diseases in that country. On his return he took over administrative control of the region of East Anglia for a little over a year, before returning again to London on promotion to the rank of Deputy Chief Veterinary Officer.

When, in 1946, it was decided that there should be a greater degree of devolution of Government administration of Scottish affairs from London, Mr. Ritchie was transferred

to Edinburgh as D.C.V.O. for Scotland and Veterinary Adviser to the Secretary of State for Scotland, and has continued in this appointment up to the present time. Apart from Mr. Ritchie's wide administrative experience and knowledge of disease control, he has played an important part in the development of the comparative test for tuberculosis, by means of which in the last few years considerable advance has been made towards freeing the herds of this country from this major scourge.

Mr. Ritchie has enriched his experience of men and affairs in many other ways. In his student days he joined the Royal (Dick) Veterinary College Contingent O.T.C., quickly reached commissioned rank while still an undergraduate, and continued to serve as an officer after graduation, eventually commanding the Contingent in the rank of Major from 1929 until the outbreak of the last war. During his professional career he has taken an active part in the work of the National Veterinary Medical Association, from 1931 to 1935 as Secretary of the Scottish Metropolitan Division, and from 1938 to 1939 as President of that Society, and when the Annual Congress of the Association met in Edinburgh in 1947 he acted as Local Secretary.

The Royal College of Veterinary Surgeons has for many years claimed his services as an examiner in Hygiene and Preventive Medicine for the D.V.S.M., and in 1950 he was elected to the Council of the Royal College of Veterinary Surgeons.

W. M.

The Deputy Chief Veterinary Officer

Mr. D. S. BARBOUR, M.R.C.V.S.

In the same issue as that in which we recorded Mr. Ritchie's appointment we welcomed also that of Mr. David Smith Barbour, M.R.C.V.S., Chief Superintending Veterinary Officer, as Deputy Chief in succession to Mr Ritchie at Edinburgh, and thus as adviser to the Secretary of State for Scotland.

Born at Colmonell, Ayrshire, in 1899, Mr. Barbour graduated at the Glasgow Veterinary College in December, 1924. After three years in private practice in Essex he joined the veterinary staff of Ayr County Council. In 1934 he was appointed Chief Veterinary Officer to Devon County Council, transference to the staff of the Ministry of Agriculture and Fisheries being made in 1938. He remained in Devon as a Divisional Veterinary Inspector until transferred to the Ministry's Head Office, London, in 1943. Appointment as Superintending Veterinary Inspector followed in the ensuing year, and in 1948 Mr. Barbour was promoted to the post of Chief Superintending Veterinary Officer.

C.V.O. ENCOURAGES THE USE OF CRYSTAL VIOLET VACCINE

Addressing a conference at Wisbech, arranged by the National Agricultural Advisory Service to discuss animal health, housing and management, Sir Thomas Dalling, the Ministry of Agriculture's Chief Veterinary Officer, refuted criticisms which he said had been levelled at the effects of crystal violet vaccine.

It had been alleged, Sir Thomas said, that various types of ill-health, such as abortion and sterility, had followed use of the vaccine. "We have looked into these troubles and I think I can say that with use in conditions under which we say it should be used crystal violet is harmless to the animal, but gives a high degree of protection." It was emphasised, however, that when a pig was vaccinated it should not already be suffering from swine fever, nor should it be exposed to the disease.

Sir Thomas upheld the slaughter policy for both foot-and-mouth disease and fowl pest as the best means of preventing these diseases from becoming endemic, but swine fever must, for the time being at least, be looked on as endemic in this country and, therefore, vaccination of pigs must be encouraged.

THE V.V.B.F. LADIES' GUILD

A "COMING OF AGE" APPEAL

The happy coincidence that this year's President of the Victoria Veterinary Benevolent Fund Ladies' Guild is Mrs. Wright, wife of the President of the B.V.A., gives us, as the journal of the Association, special title to appeal to our readers on its behalf. The occasion is provided, of course, by the fact that the year 1952 marks the coming of age of the Guild—and if the actual date of celebration will be that upon which the 21st annual general meeting is held during Congress Week at Harrogate, it cannot be too early to suggest that one of the "special activities" to which the Hon. Secretary, Mrs. Hill-Owens, drew attention in the annual report at Eastbourne, well might be an "all out" campaign for increased membership.

The need is claimant on two main counts. The first is the inevitably heavy accession to the ranks of those dependent upon the charities of the profession—in fact, the very poor: those hardest hit by the "fell blows of circumstance" we all bewail to-day. The second count is also the *raison d'être* of the first—the calamitous fall in the value of money, reducing to desperately small proportions the resources alike of those who bestow and those who receive.

Twenty-one years ago it was not so easy as events have made it to-day to remind ourselves and others that in the ranks even of our own profession there are members and their dependants to whom "a grim economic crisis" is an ever-present menace to their happiness and well-being. It was, however, a vision of the plight of these people—it always was, and doubtless still is, haunting his mind—that made Colonel P. J. Simpson, of Maidenhead, seek and secure the unanimous support of the 1931 annual meeting of the Victoria Veterinary Benevolent Fund for the then novel idea embodied in a resolution favouring the formation of a Ladies' Guild, for the sole purpose of raising money for the V.V.B.F. This brilliant conception of allying to the humdrum male approach to the problem the resources of sympathy—and enthusiasm for such a cause—latent among our ladies was a success from the moment it took substance in the following year. In February, 1932, with the late Dr. Fred Bullock, the Hon. Secretary of the "Victoria," as his dynamic co-operator, Colonel Simpson and 13 ladies held the all-important inaugural meeting. With the Colonel as Acting Secretary, these ladies took it upon themselves to inspire their sisters and work for the Guild throughout Great Britain. The sole object was to raise money by means of dances, fêtes, tournaments, bridge parties and in other ways which might occur to members, for handing over to the Victoria Fund for the relief of necessitous and deserving members of the Royal College, their widows and their dependent relatives. On August 11th, 1932, the first meeting was held, Mrs. P. J. Simpson—a most fitting and happy selection this—presiding over an attendance of 42.

Here let Mrs. Hill-Owens herself take up the story:—

"On September 11th, 1933, another A.G.M. was held and so it has been every year right up to the present day. In 1949 a new zest came into the Guild and a new set of Rules was adopted. By this time the Guild had widened its doors and there were now many Divisions working in their own way, and in their own right, sending contributions up to the Hon. Treasurer each year.

"In the report of the A.G.M. at the Holborn Restaurant on September 25th, 1942, the Hon. Secretary, Miss V. F. Wragg, stated that from the Guild's foundation in 1932 £1,945 had been raised. Since that date the ladies have raised £4,790 3s. 5d., making a total of £6,735 3s. 5d.

contributed to the Parent Fund since the commencement of the Ladies' Guild.

"This, I think, goes to prove that the wonderful work initiated by those 13 ladies under the leadership of Mrs. P. J. Simpson and her husband has not been in vain. It is therefore up to us to maintain our efforts for the Guild and may it inspire others to join in this sorely needed enterprise.

"Your applications for enrolment as members should be sent to the HON. TREASURER, MRS. R. E. GLOVER, 32, DOWNHAM ROAD NORTH, HESWALL, WIRRAL, CHESHIRE, or to the HON. SECRETARY, MRS. B. HILL-OWENS, TRIMLEY, TYRFRAN AVENUE, LLANELLY, SOUTH WALES, or, if you have a LOCAL BRANCH to your various officers there.

"We have asked for 'celebration' suggestions: so far they have not been forthcoming. May we propose, therefore, that when this note appears, every Division of the British Veterinary Association and, indeed, every other organisation in our profession, should decide to make a special effort on the 21st birthday of the Ladies' Guild, thereby honouring Colonel and Mrs. Simpson and the late Dr. Fred Bullock for its inauguration, also all ladies who have followed in their footsteps. Let us have a fine present of a sum of money collected by each body, thus making the ladies feel they have indeed been honoured on their birthday."

NOTES AND NEWS

Diary of Events

Feb. 27th.—Annual General Meeting of the Lancashire Division, B.V.A., at Manchester (Grand Hotel), 2.30 p.m.

Feb. 27th.—Annual General Meeting of the Scottish Metropolitan Division, B.V.A., in the Royal (Dick) School of Veterinary Studies, University of Edinburgh, 2.30 p.m.

Feb. 29th.—Meeting of the Sussex Division, B.V.A., at Brighton (Old Ship Hotel), 2.30 p.m.

Feb. 29th.—Annual General Meeting of the Royal Counties Division, B.V.A., at Thame (Spread Eagle Hotel), 2.30 p.m.

Mar. 5th.—Meeting of the South-East Midlands Division, B.V.A., at Northampton (The Plough Hotel), 2.30 p.m.

Mar. 6th.—Meeting of the Society of Practising Veterinary Surgeons (Division, B.V.A.) in the University of Glasgow Veterinary School, 2.30 p.m.

Mar. 6th.—Meeting of the Central Division, B.V.A., at the Royal Veterinary College, N.W.1, 6 p.m.

Mar. 7th.—Liverpool University Veterinary Society's Annual Ball, in the Students' Union, Bedford Street, 8 p.m.

Mar. 12th.—Meeting of the Technical Development Committee, B.V.A., at 36, Gordon Square, London, W.C.1, 10.30 a.m.

April 29th, 30th, and May 1st.—Meetings of Council and Committees, B.V.A., in the Royal (Dick) School of Veterinary Studies, Edinburgh.

Sept. 8th—13th.—Seventieth Annual General Meeting and Congress of the British Veterinary Association, at Harrogate.

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DEATH OF Mr. MARTIN THOMAS SPARROW, "EXISTING PRACTITIONER"

Veterinary History

Your readers will learn with regret that Mr. Martin Thomas SPARROW, of Hillcrest, Gt. Baddow, Essex, died on February 6th, 1952, at the age of 92.

This bare statement conceals a matter of veterinary history, for he was the last but one of the "Existing Practitioners" under the Veterinary Surgeons Act, 1881, being survived in that Register only by his brother Mr. Henry Frost Sparrow, of Fir Tree House, Rochford, Essex, who is now approaching his 96th year.

The Sparrows are a veterinary family well known in Essex, where the deceased's nephew—Captain Harry Davis Sparrow, Royal Veterinary College, London (1911)—and great nephew—Major Leonard Harry Sparrow, Royal Veterinary College, London (1941)—maintain the family tradition.

In 1881 there was passed into law the Veterinary Surgeons Act which protected the titles "Veterinary Surgeon" and "Veterinary Practitioner" and which purported to place upon a separate Register of Existing Practitioners those unqualified practitioners who had continuously practised veterinary surgery for not less than five years before the passing into law of the Act. On this Register the names of the brothers Sparrow were placed, and, of the 866 names that once were registered, only the name of Mr. Henry Frost Sparrow now remains.

Actually the intention of the Act to put the "Existing Practitioners" under the discipline and control of the Royal College was not effected although it was not realised in Parliament at the time. In the review of the biography of the Rt. Hon. A. J. Mundella, M.P., in *The Veterinary Record* for January 12th, 1952, is mentioned the great opposition to the Act of 1881. This meant that the original draft was seriously altered in its passage through Parliament. The effect of this was not appreciated until some 20 years later in the then important case of the Existing Practitioner Veterinary Surgeon Cooke who, having been removed by the Council R.C.V.S. from the Register of Existing Practitioners, appealed successfully to the Privy Council on the grounds that the Act gave the Council no jurisdiction over him. By the Veterinary Surgeons Act (1881) Amendment Act, 1920, this point was put right and at the same time the Existing Practitioners under the Act of 1881 were given the title of "Veterinary Surgeon."

When the Veterinary Surgeons Act, 1948, was being drafted the position of the two Existing Practitioners, the brothers Sparrow, had to be considered. The Ministry of Agriculture were advised that if these two gentlemen were not in practice then it would be unnecessary to take any action regarding their interests. However, the Registrar R.C.V.S. on communicating with each of them received the answer that despite their great ages, each of them was in some measure still in active practice.

For these two gentlemen, therefore, section 29 of the Veterinary Surgeons Act, 1948, was added to the draft Bill and passed through Parliament.

The veterinary profession will condole with Mr. Henry Frost Sparrow in the loss of his brother but will wish him continued good health and happiness.

W. G. R. O.

Mr. Harry D. Sparrow writes, in response to enquiries, that the health of his father, Mr. Henry Frost Sparrow, at 95, in some respects is better than it was for a long time previously, following his recovery from a serious operation in September last. Miss Sally Sparrow, sister, aged 89, and Mr. Arthur Sparrow, brother, aged 84, attended Mr. Martin Sparrow's funeral.

DEATH OF Dr. ANDREW L. McNABB

We learn with deep regret that Dr. Andrew L. McNabb, Principal of the Ontario Veterinary College, Guelph, Ontario, Canada, died on the 16th instant after an illness lasting some months. The funeral took place on the 19th in the Memorial Hall at the College. Dr. McNabb was among the distinguished members of the veterinary profession resident overseas upon whom the Honorary Associateship of the Royal College of Veterinary Surgeons was conferred in the year 1949, to mark the occasion of the holding of the 14th International Veterinary Congress in London.

Sir DANIEL CABOT writes: "Dr. McNabb was appointed to the Principalship of the College about seven years ago. He had previously served in the Public Health Service, but he was admirably fitted for the running of a veterinary college and Guelph was fortunate to find such a man. On assuming his new duties, his enthusiasm and tireless energy augured well for the future of the College; his sole ambition seemed to be the development of the Institution and the welfare and education of its students. Surrounded by an equally keen staff, the College progressed under his able direction. His death is not only a loss to the College, but a loss to the veterinary profession in Canada.

"Members of the profession were always well received at the College and the warmth of Dr. McNabb's welcome will ever be affectionately remembered by those who had the privilege of meeting him at his Institution. To Mrs. McNabb they extend their deep sympathy."

S.V.R. OBITUARY

JACQUES, R. P., 226, High Road, Leytonstone, London, E.11. Date of Registration March 15th, 1950. Died February 7th, 1952.

XUM

PERSONAL

Dr. Phillipson Deputy Director of the Rowett Institute

The appointment of Dr. Andrew Tindall Phillipson, M.A., PH.D. (CANTAB.), M.R.C.V.S., as Deputy Director of the Rowett Research Institute, Bucksburn, Aberdeenshire, is announced. Dr. Phillipson will continue to be head of the physiology department to which he was appointed when he joined the Institute from Cambridge in 1947.

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Appointment.—The appointment in the Colonial Veterinary Service is announced of Mr. A. M. Mackie, M.R.C.V.S., as Veterinary Officer, Uganda.

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Births.—Loxam.—On February 2nd, 1952, at Warwick Square Nursing Home, Carlisle, to Margaret, wife of John G. Loxam, M.R.C.V.S., a daughter, Stephanie Jane.

Walsby.—On January 30th, 1952, at the Lady Forester Hospital, Much Wenlock, Salop, to Anne (*née* Scott-White), and Jack Walsby, M.R.C.V.S., a son—Christopher.

Yeoman.—On January 2nd, 1952, at Iringa, Tanganyika Territory, to Myrtle (Johnny), wife of Guy Yeoman, M.R.C.V.S., Veterinary Officer, a son.

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Marriage.—Driver—Murray.—Harold Cecil Driver, M.R.C.V.S., of 4, Palace Street, Newmarket, Suffolk, to Elizabeth Kate, only daughter of the late Major Donald Murray, D.S.O., and Mrs Murray, of Hamilton Terrace, St. Johns Wood.

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Coccidiosis Colour Film.—A colour film, "Coccidiosis in Poultry," has been produced by Imperial Chemical (Pharmaceuticals) Ltd., in collaboration with the Ministry of Agriculture. Intended primarily for showing to poultry clubs and similar audiences, the film describes the life-cycle of the coccidiosis parasite. It demonstrates practical methods of hygiene and their application, and describes treatment of the disease with sulphamezathine. The film is in 16 mm. size, with a spoken commentary, and runs for 22 minutes. It is available free on loan for showing to appropriate audiences upon application to the I.C.I. Central Film Library, Bolton House, Curzon Street, London, W.1.

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ADDRESSES OF DISEASE-INFECTED PREMISES

The list given below indicates, first, the county in which are situated the premises on which disease has been confirmed, followed by the postal address and date of outbreak.

Anthrax:

Angus.—Templebank, Glamis, Forfar (Feb. 8th); Denhead Farm, Carmyllie, Arbroath (Feb. 9th).

Cheshire.—Dairy House Farm, Brereton, Sandbach (Feb. 12th).

Dumfriesshire.—Dalruscan, Tinwald, Dumfries (Feb. 9th); Newbie Mains Farm, Annan (Feb. 12th).

Lancs.—Moody Fold Farm, Deane, City of Bolton (Feb. 9th).

Staffs.—Cotton Hall Farm, Cotton, Oakamoor, Stoke-on-Trent (Feb. 8th).

Sussex (*East*).—Dudsland Farm, Hadlow Down, Uckfield (Feb. 12th).

Yorks (*W.R.*).—Shaygate Farm, Wilsden, Bradford (Feb. 12th).

Foot-and-Mouth Disease:

Yorks (*E.R.*).—New Farm, Plaxton Bridge, Thearne, Beverley. (Feb. 14th).

Fowl Pest:

Hants.—Haines Farm, Little London, Basingstoke (Feb. 12th).

Lancs.—Whitehouse Farm, Moss House Lane, Much Hoole, Preston (Feb. 14th).

Swine Fever:

Cambs.—Carlton Hall, Carlton, Newmarket (Feb. 14th).

Durham.—Holme Allotments, Harden (Feb. 11th).

Hants.—The Poplars, Forest Road, Denmead, Nr. Portsmouth (Feb. 13th).

Lancs.—Cobb Hall Farm, Chester Road, Stretford (Feb. 11th); 314, Wigan Lane, Wigan (Feb. 12th).

Leics.—Tangle Tree Farm, 200, Markfield Lane, Newtown, Lindford (Feb. 11th).

Staffs.—26, Brewer's Drive, Heath End, Pelsall; Pottal Hall, Pottal Pool, Penkridge (Feb. 14th).

Warwicks.—Spring Lane, Hockley Heath; Allotment 21, Witton, Birmingham (Feb. 12th); 10, Union Road, Shirley, Birmingham (Feb. 14th).

CORRESPONDENCE

The views expressed in letters addressed to the Editor represent the personal opinions of the writer only and their publication does not imply endorsement by the B.V.A.

STREPTOMYCIN IN CAT SEPSIS

Sir,—Although streptomycin has been readily available to the veterinary profession for some considerable time, very few articles seem to have appeared upon its use in general practice. This may well be because of the very disappointing results obtained by the intramammary use of Dihydrostreptomycin.

Fellow practitioners may be interested to know of the extremely good results obtained in this practice from the use of streptomycin sulphate in that perennial worry, cat sepsis. The first occasion we used this was on a cat which had had an infected face for some six months and one of my assistants suggested it out of sheer desperation. The results were so spectacular that it has now become the standard method of treatment in the practice. Our usual method is to dissolve 1 gramme streptomycin sulphate in 5 c.c. of water and inject 1 c.c. per day intramuscularly. Out of some 25 odd cases so far treated all have made a rapid and uninterrupted recovery. Usually five to six days' treatment is sufficient.—Yours faithfully, L. Guy Anderson, 49, Cambridge Street, Aylesbury, Bucks. *February 14th*, 1952.

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ALLEGED OVERSTOCKING

Sir,—The delay in replying to the letter of Mr. R. Glave Saunders in the issue of January 26th, 1952, is due to the fact that I thought it better to cool down first. As one of the young practitioners criticised I must state that if Mr. Saunders had been present he would not have written this letter. He would have heard all of us state that the symptoms described were those of overstocking to a degree amounting to cruelty. On the other hand, he would have heard that the total amount of milk taken from three cows, when stripped empty, could have been accommodated in the udder of any one without cruelty.

There was certainly no conflicting evidence. Surely Magistrates are expected to weigh the evidence carefully and not to jump to conclusions by guesswork, prejudiced by the youth of the witnesses. Did Mr. Saunders, on his Bench, always decide on conviction because a defending veterinary surgeon was younger and therefore less observant and experienced than himself? Impossible as it may appear to Mr. Saunders, there are still a few of us young practitioners who have had an opportunity of studying animals and the practical side of our profession in a good old-fashioned way.

It is to be regretted that no veterinary surgeon was able to accompany the R.S.P.C.A. Inspector on his visit, although I am informed that efforts were made to find some of us but without success. In any case, the evidence I give is always independent of the side which calls me.—Yours faithfully, Harry D. Sparrow, East Street, Rochford, Essex. *February 9th*, 1952.

DISEASES OF ANIMALS ACT, 1950—GREAT BRITAIN

Summary of Returns of Confirmed Outbreaks of Scheduled (Notifiable) Diseases

Period	Anthrax	Foot-and-mouth	Fowl Pest	Parasitic Mange*	Sheep Scab	Swine Fever
16th to 31st Jan., 1952	17	6	11	—	—	25
Corresponding period in—						
1951	39	13	127	—	1	38
1950	24	—	11	—	5	—
1949	4	—	30	—	4	1
1st to 31st Jan., 1952	42	17	32	—	—	67
Corresponding period in—						
1951	56	13	258	—	3	73
1950	37	—	21	—	10	—
1949	16	—	45	—	7	2

* Excluding outbreaks in Army Horses.

Tuberculosis (Attested Herds) Scheme

The number of Attested Herds, *i.e.*, herds officially certified as free from Tuberculosis as at January 31st, 1952, was as follows:—

England	Wales	Scotland	Total (Great Britain)
37,094	21,197	17,606	75,897